

## Chapter 4: Affected Environment

The discussion in this chapter focuses on the existing setting and condition of the area that will be affected by this project. This chapter is organized into the following sections: Traffic and Transportation, Social/Economic, Community Facilities and Services, Farmland, Historic and Archaeological Resources, Air Quality, Noise, Natural Resources, Floodplains, Wetlands, Visual and Aesthetic Resources, and Hazardous Materials Sites. The project area extends from 96<sup>th</sup> Street on the south to 800 feet north of 216<sup>th</sup> Street on the north, and 1500 feet to the east and west from the centerline of each of the chosen build alternatives (See Appendix A for detailed maps of the study area).

### 4.1 Traffic and Transportation

#### *Roadway System*

The existing US 31 facility is a four-lane divided roadway (six lanes between I-465 and 106<sup>th</sup> Street) with partial access control (limited access right-of-way) and numerous at-grade intersections through the project area. It is classified as an Urban Other Principal Arterial. There are 15 signalized and seven unsignalized intersections along US 31 within the project area with interchanges at I-465 and SR 431. While access is controlled along US 31, several private properties located north of the SR 431 interchange have direct access to the roadway. In general, access to the facility is limited primarily to major intersections, with general spacing of one-half to one mile.

US 31 currently has 12-foot wide travel lanes with an 11-foot paved outside shoulder and a 4-foot paved inside shoulder. The northbound and southbound travel lanes are separated by a wide depressed median ranging from 50 to 60 feet. There are also right and left turn auxiliary lanes at all major intersections. The total right-of-way is typically 290-feet wide south of 146<sup>th</sup> Street and ranges from 150 to 180 feet wide north of 146<sup>th</sup> Street.

Traffic volumes in the corridor are highest near the I-465 Interchange with volumes steadily decreasing to the north. There is an increase in volumes north of the SR 431 interchange and then a steady decrease to the northern study limit at SR 38. Cross street volumes are the highest between 96<sup>th</sup> Street and 136<sup>th</sup> Street and at SR 32 (Table 4.1-1).

Level of service (LOS) provides a measure of congestion on roadways. Existing LOS ranges from A to F, with LOS A indicating the least traffic congestion and LOS F indicating the most traffic congestion. Intersections typically control capacity on signalized arterials and are therefore analyzed to determine levels of service along the arterial. LOS is based on the average control (total) delay per vehicle at the intersection. INDOT standards state that LOS C is desirable for multi-lane urban arterials; LOS D is minimally acceptable.

**Table 4.1-1**  
**Existing 2000 Average Daily Traffic Volumes**

	<b>Existing (2000)</b>
South of 96 <sup>th</sup> Street	44,500
96 <sup>th</sup> Street to I-465	48,500
I-465 to 103 <sup>rd</sup> Street	59,900
103 <sup>rd</sup> Street to 106 <sup>th</sup> Street	52,000
106 <sup>th</sup> Street to 116 <sup>th</sup> Street	50,500
116 <sup>th</sup> Street to 126 <sup>th</sup> Street	39,200
126 <sup>th</sup> Street to 136 <sup>th</sup> Street	32,900
136 <sup>th</sup> Street to Rangeline Road	30,000
Rangeline Road to SR 431	36,600
SR 431 to Greyhound Pass	60,600
Greyhound Pass to 151 <sup>st</sup> Street	46,500
151 <sup>st</sup> Street to 161 <sup>st</sup> Street	43,100
161 <sup>st</sup> Street to SR 32	38,900
SR 32 to 181 <sup>st</sup> Street	34,000
181 <sup>st</sup> Street to SR 38	31,700
North of SR 38	29,200

Existing levels of service at signalized intersections within the project area are consistently fair to poor. Seven of the fifteen signalized intersections between 96<sup>th</sup> Street and SR 38 are experiencing LOS E or LOS F during the morning and/or evening peak hours (Table 4.1-2). Traffic congestion is most severe between 96<sup>th</sup> Street and SR 431 where six of nine intersections reach LOS E or LOS F during the morning peak period and four of the nine reach this service level during the evening peak period. North of SR 431, delay is less common during the morning peak period, with LOS D or better at five of the six signalized intersections. The exception to this trend is at the intersection at 151<sup>st</sup> Street where LOS F exists during the morning peak period.

**Table 4.1-2**  
**Existing Level of Service**

Intersection	Existing Level of Service (2000)	
	AM Peak	PM Peak
96 <sup>th</sup> Street	<b>E</b>	<b>E</b>
I-465 Westbound Ramps	D	C
I-465 Eastbound Ramps	<b>E</b>	C
103 <sup>rd</sup> Street	<b>E</b>	<b>E</b>
106 <sup>th</sup> Street	<b>E</b>	D
116 <sup>th</sup> Street	<b>F</b>	<b>F</b>
Carmel Drive	<b>F</b>	<b>E</b>
136 <sup>th</sup> Street	D	D
Rangeline Road	B	D
<i>US 31 and 431 Interchange</i>		
Greyhound Pass	D	D
151 <sup>st</sup> Street	<b>F</b>	D
161 <sup>st</sup> Street	D	D
SR 32	D	D
181 <sup>st</sup> Street	A	B
SR 38	C	D

**E, F** = Substandard levels of service

### ***Public Transportation***

Transit service in the Indianapolis Metropolitan region consists of a bus-only transit system operated by IndyGo. Service is currently not available in Hamilton County, with the bus service area ending at 96<sup>th</sup> Street, the Marion/Hamilton county line. Additionally, no passenger transit lines are currently in place in Hamilton County nor planned for the future.

## **4.2 Pedestrian/Bicycle Access**

As a high-speed, high-traffic primary arterial, existing US 31 does not mix pedestrian traffic with vehicular traffic. There are no sidewalks or shared-use paths located directly parallel to US 31. Most crossroads intersecting with US 31 do not have adjacent sidewalks. The exceptions are on the south side of 126<sup>th</sup> street (east of US 31), and on SR 32 (east of US 31). In both places, the sidewalks terminate before reaching US 31. Furthermore, there are no pedestrian buttons/phases/indicators on traffic signals on US 31.

A shared off-street path and sidewalk system is incorporated throughout 146<sup>th</sup> Street. The system crosses over US 31 via the 146<sup>th</sup> Street bridge. The path uses a concrete barrier wall on the bridge to separate vehicular traffic from path users and continues beyond Spring Mill Road to the west and beyond Carey Road to the east.

There are no bicycle lanes on US 31. Full-width outside shoulders on US 31 are available; however, very little bicycle traffic uses the facility in this way. Occasional bicycle traffic crosses US 31 on the cross streets. However, there are no bicycle lanes on any of the crossroads intersecting with US 31.

US 31 crosses over the Monon Trail, a rails-to-trails, multi-use path, just north of 136<sup>th</sup> (Appendix A, Sheet 5). Two bridge structures, one for northbound and one for southbound US 31, are utilized.

The Union Street Trail is currently under construction (2003) and parallels Westfield Boulevard (Appendix A, Sheets 7 and 14). The planned trail extends from the Cool Creek Park in the south and terminates at Hadley Park in the north. It does not cross US 31 time nor were plans located to extend the trail north of Hadley Park in the Town of Westfield.

### ***Planned Sidewalks and Trails***

The Monon Trail is planned to extend north of 146<sup>th</sup> Street and continue along the abandoned rail line until crossing SR 38.

Use of separated, parallel multi-use paths is being planned by the City of Carmel for most streets that currently cross US 31. The exception would be 103<sup>rd</sup> Street that is planned to be upgraded with a 5-foot sidewalk. A grade-separated pedestrian crossing is planned to cross US 31 north of 116<sup>th</sup> Street (Figure 4.2-1).

Parts of the South Union Street Trail are under construction. No plans were found to extend the trail north of Hadley Park in the town of Westfield.

### 4.3 Socioeconomic

As a result of rapid population and employment growth in Hamilton County, travel in the US 31 corridor has increased substantially in recent years. Commercial and industrial growth is occurring adjacent to US 31. Land use across the southern half of Hamilton County is changing from predominantly agricultural to residential and commercial.

#### 4.3.1 Population Trends

Hamilton County is currently the fastest growing county in the State of Indiana. As shown in Table 4.3-1, the County added more than 70,000 new residents between 1990 and 2000, representing an increase of 68% in the ten-year period. Growth is expected to continue and population is projected to exceed 300,000 by the year 2025, a 69% increase from the year 2000.

Clay and Washington townships are experiencing similar levels of growth. Between 1990 and 2000, the population of Clay Township, which includes the City of Carmel, increased by 51%. By 2025, Clay Township's population is expected to surpass 100,000, a 60% increase over the year 2000. Washington Township's population, which increased 96% over the last ten years, is expected to increase by 77% over the next twenty-five years.

Furthermore, available housing in Hamilton County, Clay Township and Washington Township are 95%, 97% and 94% occupied respectively. Based upon the historical growth rate and the anticipated growth rate within Hamilton County and both townships, the existing available housing will not support the potential growth, therefore the projected population growth will result in a substantial increase in the demand for housing, thus, encouraging growth in the area.

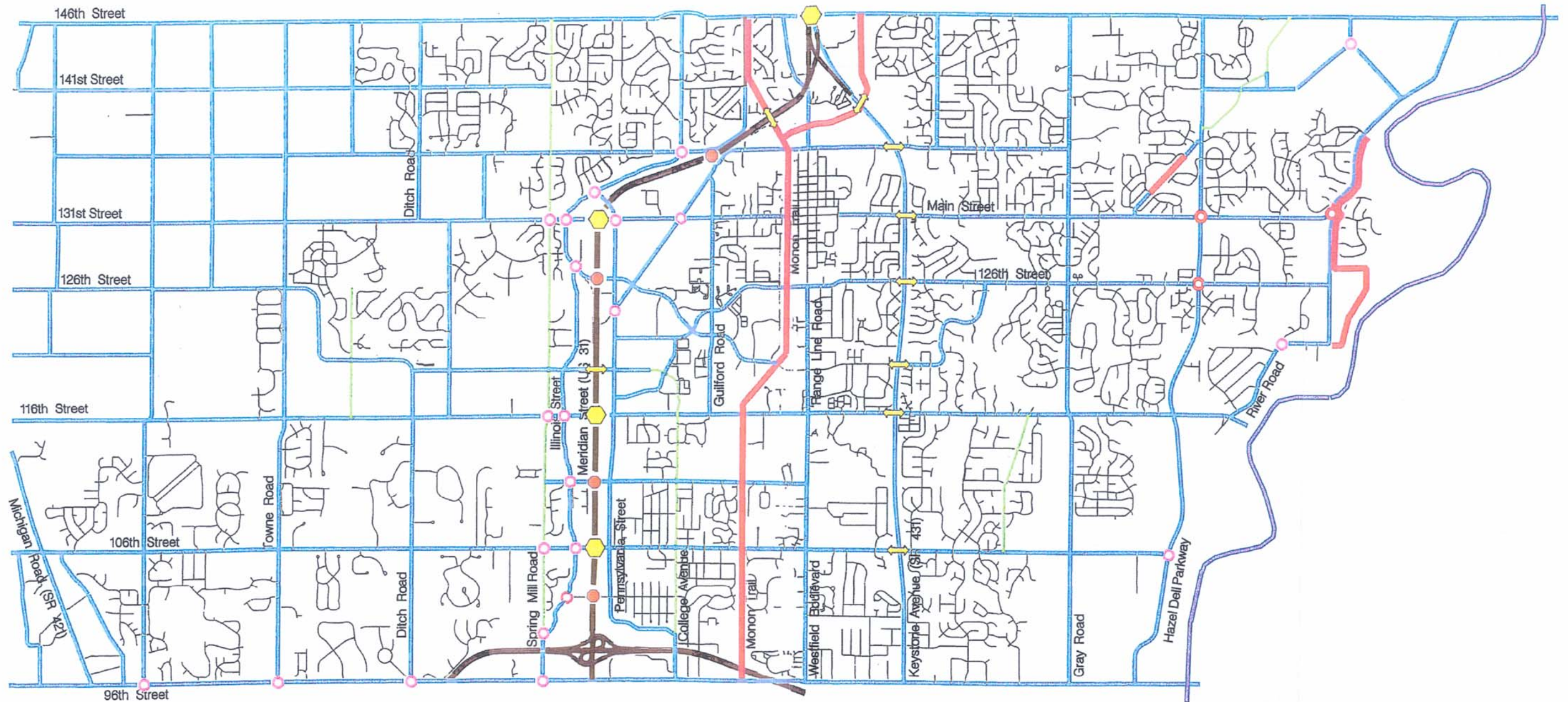
**Table 4.3-1**  
**Population and Housing Characteristics**

Location	1990	2000	% Change 1990-2000	Projected 2025	Projected % Change 2000-2025	Total Housing Units	% Occupied
State of Indiana	5,554,890	5,987,900	8%	N/A	N/A	N/A	N/A
Indianapolis 8-County Metropolitan Area	1,249,822	1,474,128	18%	1,764,670	20%	N/A	N/A
Hamilton County	108,936	182,740	68%	308,300	69%	69,478	95%
Clay Township	42,987	64,709	51%	102,200	60%	23,516	97%
Washington Township	9,379	18,358	96%	32,500	77%	6,831	94%

*Source: US Census/Indianapolis MPO*

According to the 2000 Census data, 94.4% of the population of Hamilton County reported being Caucasian with a median age of 34.1 years. Minorities accounted for 5.6% of the population, the majority of which (2.4%) were Asian. These demographic trends are similar in the townships and local municipalities. Clay Township reported a Caucasian population of 93% with the largest minority being Asian, representing 4% of the township's population. The City of Carmel reported a Caucasian population of 92.6% with Asian being the largest minority, comprising





Alternative Transportation Paths		
Symbol	Classification	Minimum Trail Width
	Sidewalks	5'
	Shared Roadway Path & Sidewalks	6' each side
	Separated, Parallel Multi-Use Paths	10'
	Dedicated Trail	12'

- Notes:
- Separated Grade Pedestrian Crossing
  - Overpass Location
  - Interchange Location
  - Round-A-Bout Intersection
  - Proposed Round-A-Bout Intersection

## Alternative Transportation Plan

City of Carmel &  
Clay Township



Source: Clay Township Planning Commission



**FIGURE 4.2-1**  
Alternative Transportation Plan  
Carmel/Clay Township  
Draft Environmental Impact Statement  
Hamilton County, Indiana

4.4% of the population. Washington Township had a Caucasian population of 94.9% with Asians accounting for 1.6%. Similarly, the Town of Westfield reported 93.6% of the population being Caucasian followed by Asians being the largest minority group representing 1.8% of the population (Table 4.3-2).

**Table 4.3-2  
2000 Population Dynamics**

Location	Total # of Persons	% Caucasian	Total # of Minorities	% Minorities	Total # Asians	% Asians
Hamilton County	182,740	94.4%	10,233	5.6%	4,386	2.4%
Clay Township	64,709	93%	4,535	7.0%	2,588	4.0%
Washington Township	18,358	94.9%	936	5.1%	294	1.6%

*Source: STATS Indiana*

Table 4.3-3 illustrates the changes in age demographics from 1990 to 2000. Hamilton County is experiencing a substantially greater increase within each age group than the State as a whole. The children and adolescents age group demonstrate the highest growth rate. The Census 2000 data suggests that a ‘baby boom’ has been occurring in Hamilton County over the last decade. Washington Township, which includes the Town of Westfield, has seen a 120% increase in the number of children and adolescents living in the area. It is evident that the townships in the project corridor are experiencing significant population increases across all age groups.

**Table 4.3-3  
% Population Changes of Children, Adults, and Elderly (1990-2000)**

Age Group	0-5	6-17	18-20	21+	65+
Indiana	6.2 %	8.9 %	1.7 %	10.8 %	8.1%
Hamilton County	86.1 %	74.7 %	22.2 %	65.7 %	52.0 %
Clay Township	59.3 %	56.7 %	9.8 %	49.3 %	68.0 %
Washington Township	120.1 %	122.9 %	39.2 %	90.7 %	60.7 %

*Source: STATS Indiana*

### **4.3.2 Employment and Income**

Employment growth has been very strong within the project area (Table 4.3-4). According to the Carmel/Clay Comprehensive Plan, suburban areas have been leasing more office space than downtown Indianapolis over the last decade. The US 31 corridor has been one of the prime areas for this suburban development. Much of this growth has occurred along the existing US 31 facility. The major employers in the area include but are not limited to: Merrill-Lynch, Conseco, Thomson Electronics, Saint Vincent’s Carmel Hospital, and Verizon. There are also several recent developments within the project area: The Heart Center of Indiana, Lowes, hotels,



and Hamilton Crossing. Additionally, there are several new developments being planned along the corridor. At 96<sup>th</sup> street, a new office complex is planned. Additionally, most of the property surrounding 131<sup>st</sup> Street has planned developments. There is also an open-air shopping complex planned for the southwest quadrant of US 31 and 146<sup>th</sup> Street. These large developments are further reinforcement of the significant growth throughout the project area, such as Oak Manor Planned Unit Development (PUD) and Cool Creek Commons at 161<sup>st</sup> Street.

The US 31 corridor currently contains the second highest concentration of office space in the State of Indiana. Together, Clay and Washington townships account for more than 40% of Hamilton County's employment. By 2025, these townships are expected to contain almost 70,000 jobs, or 46% of the county's total. Hamilton County is expected to contain almost 150,000 jobs.

**Table 4.3-4**  
**Employment Trends and Projections**

Location	1990	2000	% Change 1990-2000	2025	% Change 2000-2025
State of Indiana	3,083,460	3,613,770	17%	N/A	N/A
Indianapolis 8-County Metropolitan Area	806,610	966,480	20%	1,293,300	34%
Hamilton County	57,640	96,750	68%	145,780	51,000
Clay Township (includes City of Carmel)	24,784	29,005	17%	44,000	52%
Washington Township (includes Town of Westfield)	5,519	9,804	78%	23,400	139%

Source: US Census/Indianapolis MPO

Hamilton County ranks first in per capita and median household income in the State of Indiana. Per capita income in 1999 was \$40,435 while the median household income in 1997 was \$68,017. The poverty rate in 1997 was the lowest in the State at 3.2%. Most recently reported in October 2001, the unemployment rate was again the lowest in the state at 2.1%. According to Table 4.3-5, the primary areas of employment are manufacturing, insurance/real estate, and education and health. These areas of employment make up almost half of the workforce in both Clay and Washington townships. Table 4.3-5 indicates that unemployment is lower in Hamilton County, 1.7%, than the State, 4.7%.

**Table 4.3-5**  
**Employment Characteristics**

Municipality	Professional Services	Agriculture/ Forestry/Mining	Manufacturing	Sales	Retail Trade	Education and Health	Employed Persons	Unemployed Persons (%)
Indiana	28.70%	1.40%	22.90%	25.30%	11.80%	19.30%	2,965,174	4.70%
Hamilton County	49.10%	0.50%	15.10%	28.50%	11.20%	19.40%	95,694	1.70%
Clay Township	56.90%	0.20%	14.20%	27.50%	10.80%	20.30%	32,215	2%
Washington Township	45.80%	0.40%	15.20%	28.50%	13.50%	16.80%	9,260	1.70%

Source: US Census/Indianapolis MPO

### 4.3.3 Land Use/Zoning

During the past two decades, land use in the southern two-thirds of Hamilton County has grown from rural and agricultural to residential and commercial (Figures 4.3-1 and 4.3-2). Land use within the project area consists of agricultural, residential, commercial/retail and office space (Figure 4.3-2). From 96<sup>th</sup> Street to 146<sup>th</sup> Street the project area is dominated by business and office development. It has the second largest concentration of office development in Indianapolis. From 146<sup>th</sup> Street to 156<sup>th</sup> Street the land use is mainly commercial and retail. This area is comprised of several large shopping centers and many restaurants. North from 156<sup>th</sup> Street, the land use is primarily agricultural and residential, especially north of Westfield. The exception exists at SR 32. At SR 32, several light industrial and commercial buildings are adjacent to the existing highway. Commercial and residential developments along with small, isolated wooded areas are widely scattered throughout the corridor. The densest residential developments are found south of 146<sup>th</sup> Street.

According to the Carmel/Clay Comprehensive Plan, the township has changed since the early 1970s (Figure 4.3-1 and Figure 4.3-2). Agricultural and vacant land use has declined from 85% in 1971 to 34% in 1995. Simultaneously residential land use has increased from about 5% in 1971 to 46% in 1995. Westfield/Washington Township still maintains a significant agricultural base. According to Westfield/Washington Comprehensive Plan, 66% of the township remained agricultural in 1999 (Figure 4.3-3). Residential land use accounted for 18% of the total. In addition to significant population growth, the township has seen a substantial amount of residential and commercial development in recent years. The 66% of remaining agricultural land will continue to face pressure for development in the future.

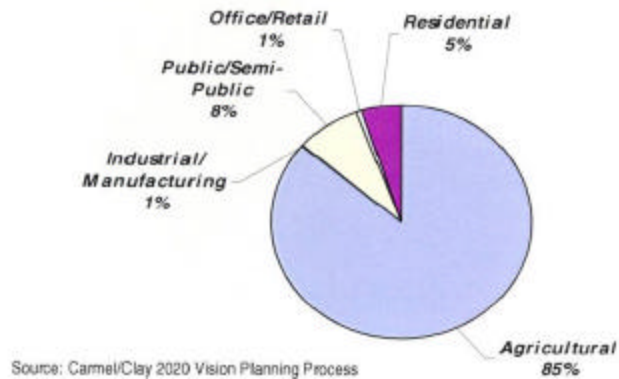
Building activity continues to increase throughout the corridor, particularly in southern portions of the project area. Building activity in Carmel/Clay Township has increased from approximately 500 permits per year in the early 1990's to over 1000 per year in the late 90's. Building permits for Westfield/Washington Township has also steadily increased over the past ten years from approximately 200 per year in the early 1990's to over 700 in 99. Although the majority of development activity occurring is residential, retail and office development is also significant along the US 31 corridor.

The current zoning for Carmel/Clay Township within the project area south of 146<sup>th</sup> Street is predominantly business (B2, B3, B5, B6 and PUD) and residential (S-2, SF, R-1 and R-2) with portions of the Old Meridian development (OM/M, OM/MF, OM/MU, OM/O, OM/PUD, OM/SFA, OM/SU, and OM/V). The current zoning for Westfield/Washington Township north from 146<sup>th</sup> Street north to 151<sup>st</sup> Street, is business (GB and SB-PD), north of 151<sup>st</sup> street there is a mixture of business (LB-PD, B7, GB, GB-PD and LB) industrial (EI, OI and OI-PD), residential (SF-2, SF-3 and MF-1) and agricultural (Ag-SF1) zoning. Zoning codes are in reference to categories displayed on the Zoning Map included as Figure 4.3-4.

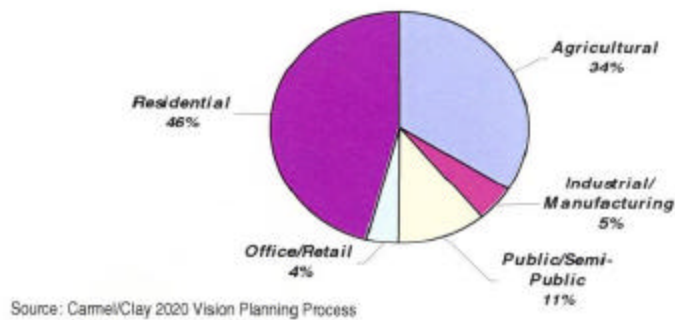
The zoning plan for Carmel/Clay Township is focused on creating a commercial corridor along the US 31 alignment. In addition to this plan, Carmel/Clay is also planning to increase the support facilities that go along with businesses, such as restaurants, service stations, etc. This planning produces a centralized business district that runs through the middle of the township and relies on US 31 as the primary transportation path in the area (Figure 4.3-5).



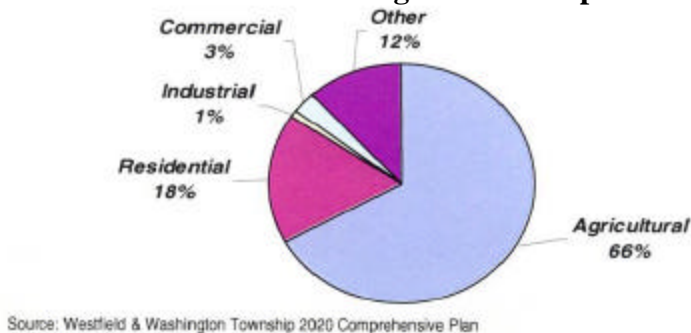
**Figure 4.3-1**  
**1971 Carmel/Clay Township Land Use**



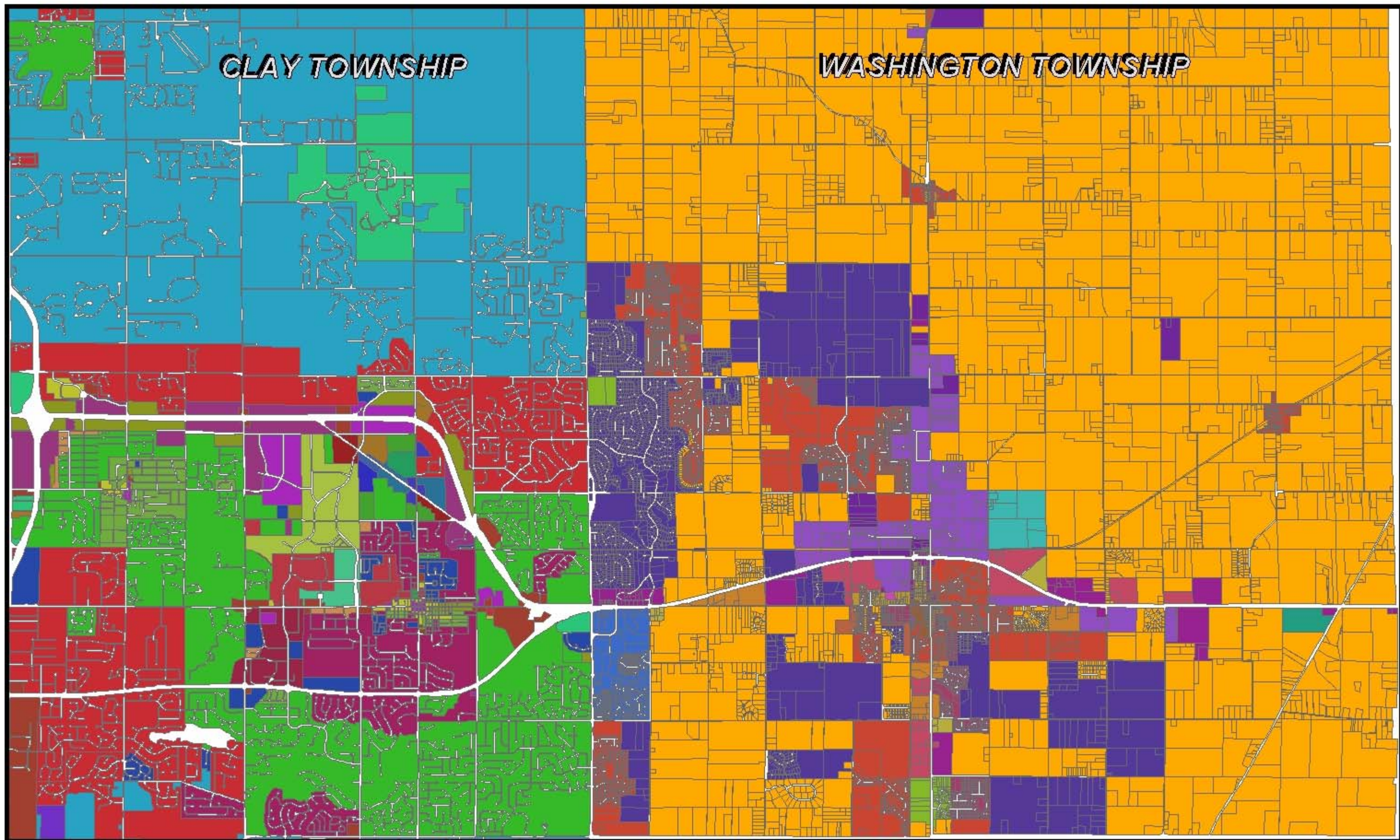
**Figure 4.3-2**  
**1995 Carmel/Clay Township Land Use**



**Figure 4.3-3**  
**1999 Westfield/Washington Township Land Use**







**CLAY TOWNSHIP**

**WASHINGTON TOWNSHIP**



**ZONING**

AG-SF1	B-3	B-8	GB	LB	MF-1	OI-PD	OM/O	OM/V	R-3	S-2	SF-3
B-1	B-5	C-1	GB-PD	LB-H	MF-2	OM/M	OM/PUD	PUD	R-4	SB-PD	SF-4
B-2	B-6	C-2	GO	LB-PD	MF1	OM/MF	OM/SFA	R-1	R-5	SF	SF1
	B-7	EI	I-1	M-3	OI	OM/MU	OM/SU	R-2	S-1	SF-2	

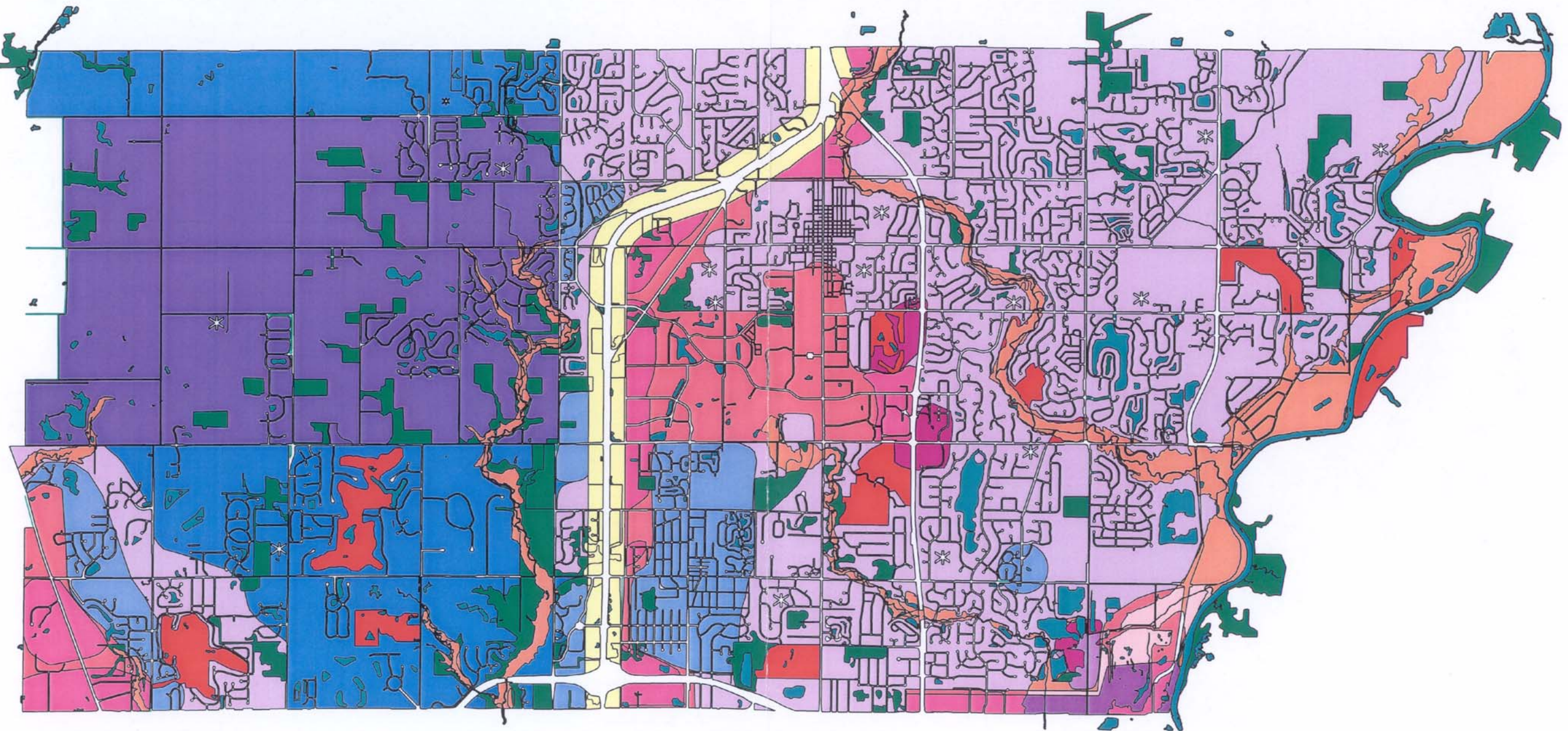


Source: Hamilton County, Indiana

**FIGURE 4.3-4**  
**Zoning Map**

Carmel/Clay Twp. & Westfield/Washington Twp.  
Draft Environmental Impact Statement  
Hamilton County, Indiana





#### LEGEND

- EXISTING VEGETATION
- EXISTING WETLAND
- 100 YEAR FLOOD PLAIN
- PUBLIC PARKS / GOLF COURSES

- WELLHEAD PROTECTION AREAS
- ⋈ SPECIAL STUDY AREAS
- ✱ SCHOOL SITES
- BUTLER UNIVERSITY LAND

#### RESIDENTIAL COMMUNITIES

- HIGH INTENSITY
- MEDIUM INTENSITY
- LOW INTENSITY
- VERY LOW INTENSITY
- RESIDENTIAL ESTATE

#### REG-COMM. EMP. AREAS

- U.S. 31 CORRIDOR
- HIGH INTENSITY
- MEDIUM INTENSITY
- LOW INTENSITY
- OLD TOWN

DRAFT



Source: Clay Township Planning Commission



**Figure 4.3-5**  
Carmel/Clay Land Use Plan

Draft Environmental Impact Statement  
Hamilton County, Indiana



The zoning plan for Westfield/Washington Township consists of expanding growth to the north, east, and west of existing developments. The key area of growth is targeted at the area surrounding the intersection of US 31 and SR 32. This area is planned to become a gateway into the Town of Westfield. As a gateway, it would include high intensity office developments with several multi-story buildings and would serve as a high profile entrance to the Town of Westfield (Figure 4.3-6).

The Carmel/ Clay Township Comprehensive Plan focuses its development strategy on creating a high intensity office corridor along US 31. This corridor will be flanked by supporting businesses on both sides from I-465 up to 146<sup>th</sup> street.

The Westfield/ Washington Township Comprehensive Plan employs a development strategy that utilizes growth areas. There are three growth areas, existing urbanized, preferred growth, and transitional areas. The existing urbanized areas cover everything that is currently built and all developments that have been approved. The preferred growth area was created to prevent sporadic developments. This allows for a more controlled build out in the township, and provides for an efficient expansion of public utilities. Transitional areas represent those areas that are moving from one land use to another however no current usage exists.

#### **4.3.4 Neighborhoods/Community Cohesion**

##### ***Neighborhoods***

Only a few residential communities are located adjacent to the existing US 31 corridor. Furthermore, the proposed off-alignment (Alternatives G1 through G6) corridor primarily consists of rural housing and agricultural properties.

All potentially affected neighborhoods and communities are identified below:

##### ***Carmel/Clay Township Neighborhoods adjacent to the existing US 31 corridor***

- *Meridian Suburban* (Appendix A, Sheet 2) is located southwest of the US 31 and 111<sup>th</sup> Street intersection. This single-family neighborhood appears to be over 50 years old and representative of a well-established community. There are 36 homes located in this community. Twelve of the homes parallel the US 31 corridor south of 111<sup>th</sup> Street.
- *Park Place* (Appendix A, Sheets 4A and 4B) is located north-northwest of the US 31 and 131<sup>st</sup> Street intersection. This single-family neighborhood appears to be less than 10 years old containing over 50 residences. There is a vacant field separating the US 31 corridor and the southeastern boundary of the complex.
- *North Meridian Heights* (Appendix A, Sheets 4A and 4B) is located south of US 31 and north of 131<sup>st</sup> Street. This single-family neighborhood appears to be over 20 years old and contains over 40 homes. The northwestern portion of the neighborhood is immediately adjacent to the US 31 corridor. The northern boundary of the neighborhood parallels the US 31 corridor separated by a vacant field.
- *Bentley Oaks* (Appendix A, Sheets 4A and 4B) is located north of US 31 and south of 136<sup>th</sup> Street. This single-family neighborhood appears to be less than 10 years old containing over 50 residences. There is a vacant field followed by the existing US 31 corridor and the southeastern boundary of the complex.

- *Thistlewood* (Appendix A, Sheet 5) is located north of 136<sup>th</sup> Street and west of US 31. This single-family neighborhood appears to be between 20 and 30 years old. The Little Cool Creek is adjacent, northeast of the neighborhood. There are over 35 homes located within the neighborhood. The southernmost portion of the neighborhood parallels 136<sup>th</sup> street followed by a vacant lot and the existing US 31 corridor.
- *Hunters Knoll* (Appendix A, Sheet 5) is located north of 136<sup>th</sup> Street and west of US 31. This single-family neighborhood appears to be 20 to 40 years old containing over 50 residences. The southern portion of the neighborhood parallels 136<sup>th</sup> Street followed by the existing US 31 corridor.
- *Hunters Creek South* (Appendix A, Sheet 5) is located north of 136<sup>th</sup> Street and west of US 31. This single-family neighborhood appears to be 20 to 40 years old containing over 50 residences. The entry point of the neighborhood is located near the intersection of 136<sup>th</sup> Street/Rohrer Road/Old Meridian Street/US 31.
- *Autumn Lake* (Appendix A, Sheet 5) is located east of Rohrer Road and west of the existing US 31 corridor. This single-family neighborhood is less than 5 years old and contains approximately 18 homes. The western cul-de-sac is located adjacent to the existing US 31 corridor just south of the Monon Trail.
- *Circle Drive neighborhood* (Appendix A, Sheets 6A, 6B and 6C) is located west of US 31 on Circle Drive. This single-family neighborhood is over 50 years old and contains 30 residences. The entry point to this neighborhood is located on the existing US 31 corridor just north of the Monon Trail. This neighborhood appears to be well established and has made several inquiries regarding the US 31 Improvement Project, including two meetings.
- *Stonehedge Estates* (Appendix A, Sheets 6A, 6B and 6C) is located south of 146<sup>th</sup> Street and east of Rohrer Road. This single-family neighborhood appears to be 30 to 50 years old and contains over 40 residences. The access to this neighborhood is located on 146<sup>th</sup> Street.
- *Walter's Plaza* (Appendix A, Sheets 6A, 6B and 6C) is located west of Rangeline Road and southwest of US 31/US 431 Interchange. This single and multi-family neighborhood appears to be 20 to 30 years old and contains over 30 residences. The entrance to this neighborhood is located on Rangeline Road near the intersection with US 31.

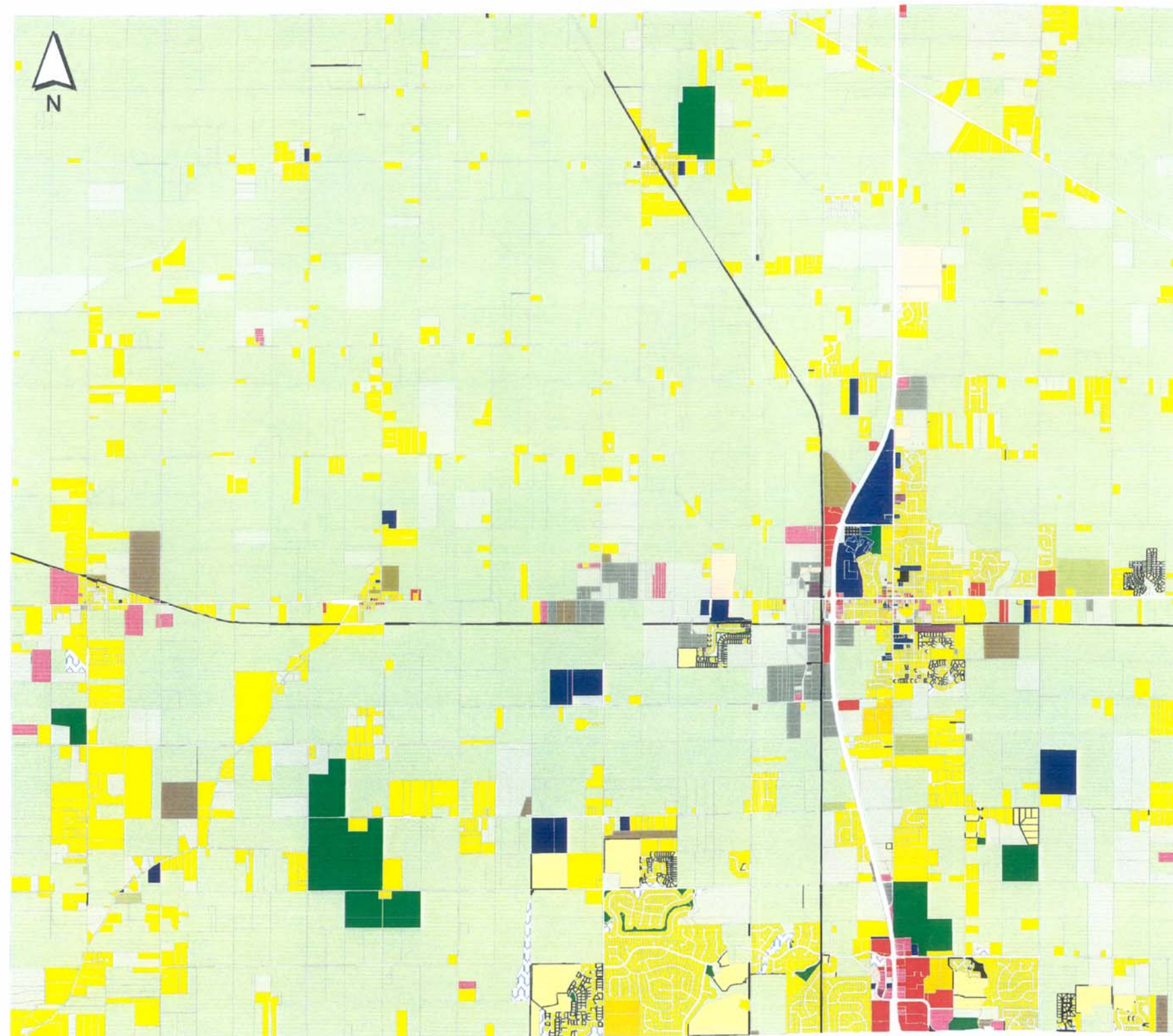
***Westfield/Washington Township Neighborhoods adjacent to the existing corridor***

- *Shadow Lakes* (Appendix A, Sheets 6A, 6B and 6C) is located north of 146<sup>th</sup> Street and west of US 31. This single-family neighborhood appears to be less than 15 years old containing over 100 homes. The neighborhood is adjacent to the shopping plaza on the west side of the existing US 31 corridor.
- *Buena Vista Drive neighborhood* (Appendix A, Sheets 6A, 6B, 6C and 14) is located west of US 31 between 156<sup>th</sup> and 161<sup>st</sup> Streets. This single-family neighborhood appears to be over 40 years old containing nine homes. The access to the neighborhood is located on US 31 north of 156<sup>th</sup> Street and the eastern portion of the neighborhood borders US 31.
- *Farr Hills Drive neighborhood* (Appendix A, Sheets 6A, 6B, 6C and 14) is located south of 161<sup>st</sup> Street and west of US 31. This single-family neighborhood appears to be over 40 years old and contains over 30 homes. Access is located on 161<sup>st</sup> Street.



## Existing Land Use

August 2, 1999



### Land Use Categories

- Agricultural
- Single Family Residential
- Future Single Family Residential
- Multi-Family Residential
- Manufactured Housing Community
- Commercial Office
- Commercial Retail
- Commercial Service
- Recreational
- Public/Institutional
- Health/Medical
- Vacant Structure
- Vacant Land
- Industrial
- Parking
- Utilities
- Cementary
- Water

2000 0 2000 4000 Feet

- *Westfield Neighborhood* located southeast and east of the US 31 and SR 32 intersection (Appendix A, Sheets 8 and 9). This single-family neighborhood appears to be 40 to 50 years old and is located in close proximity to the Washington Elementary School, Westfield Intermediate School, the Westfield Middle School and the Westfield High School. Additionally, the Asa Bales Park and library are located nearby.
- *North Glenn Village* (Appendix A, Sheets 9 and 10) is located north of 181<sup>st</sup> Street and west of US 31. This single-family neighborhood consisting of over 100 mobile homes has been at the same location for over fifty years. Access to the neighborhood is currently available from US 31, Blackburn Road and Tomlinson Road.
- *Neighborhoods at Justin Morgan Lane and Ethan Allen Drive* (Appendix A, Sheets 10 and 11) is located southeast of the intersection of US 31 and 196<sup>th</sup> Street. These neighborhoods appear to be over 50 years old containing over 30 homes. The access to both neighborhoods is located on 196<sup>th</sup> Street. Justin Morgan Lane runs parallel to the eastern boundary of US 31.

***Westfield/Washington Township Neighborhoods adjacent to the proposed off-alignment***

- *Carey Commons* (Appendix A, Sheet 16) is located south of SR 32 and west of Carey Road. This single-family neighborhood appears to be less than 15 years old consisting of over 60 residences.
- *Grassy Knoll* (Appendix A, Sheet 16) is located northwest of SR 32 and Grassy Branch Road. This single-family neighborhood appears to be less than 15 years old consisting of over 60 residences.
- *Willow Creek* (Appendix A, Sheet 16) is located northwest of the intersection of US 31 and SR 32. This single-family neighborhood appears to be less than 15 years old consisting of 37 residences.

In addition to the above listed neighborhoods, there are four apartment and condominium complexes (multi-family) located adjacent to the existing US 31 alignment or the proposed off-alignment. They are as follows:

- *Carmel Point* (Appendix A, Sheets 4A and 4B) is located west of the intersection of US 31 and 126<sup>th</sup> Street.
- *Kensington Estates* (Appendix A, Sheet 5) is located east of US 31 south of Smoky Row Road.
- *Cool Creek Apartments* (Appendix A, Sheets 6A, 6B and 6C) is located south of the US 31 and SR 431 interchange.
- *Tree Top of Carmel Apartments* (Appendix A, Sheets 6A, 6B and 6C) is located south of 151<sup>st</sup> Street and east of US 31.

There is one neighborhood, Oak Manor (Appendix A, Sheet 15), which is under construction and one neighborhood, Oak Manor PUD (Appendix A, Sheets 15 and 16), which is proposed.

***Community Cohesion***

Neighborhood and community cohesiveness are contingent upon many factors. Age, income and marital status can be influencing factors of community cohesion. In addition, minority and ethnic communities represent differing levels of cohesion. Schools, parks and other public amenities (grocery store, restaurants, etc.) also play a role in cohesion. Community cohesion can be viewed more simply as an established interdependency within a neighborhood where the community members have recognized interpersonal relationships with one another.



Well-established neighborhoods, such as the neighborhood on Circle Drive, have a greater potential to contain elements that may promote community cohesion. Recent developments such as Autumn Lake represent a lesser potential for the development of cohesion. Additionally, the Westfield neighborhood located near Asa Bales Park, the Westfield schools and various other public amenities may provide an environment that promotes the establishment of community cohesion more so than a neighborhood that does not have easy access to such facilities. No parks, schools or other public amenities are exclusive to individual neighborhoods throughout the corridor.

Additionally, based upon available US Census data and field observations, none of the neighborhoods identified adjacent to the existing US 31 alignment or the proposed off alignment route have been recognized as low-income, subsidized or minority. Executive Order 12898 (February 11, 1994) requires an assessment of minority and low income populations within the study area in compliance with Environmental Justice regulations. Environmental Justice has three fundamental principles:

- To avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The study area was assessed for Hispanic, Black, Asian, Native American, Pacific Islander, and Other (e.g., multiracial, interracial, etc.) populations (Figures 4.3-7, 4.3-8, 4.3-9, 4.3-10, 4.3-11, and 4.3-12). Minority populations within each block along the US 31 corridor that exceed 1% are indicated. According to the mapping, three census blocks along the US 31 corridor contain minority groups that are greater than 1% of the total population of the block (ranging from 2% to 26% total population).

### **Block 1**

The first block is bound by US 31 to the west, David Brown Drive/Clubhouse Drive to the north, South Union Street to the east, and 161<sup>st</sup> Street to the south. The southern portion of the block, which is currently vacant, is the site of the proposed Cool Creek Commons development.

### **Block 2**

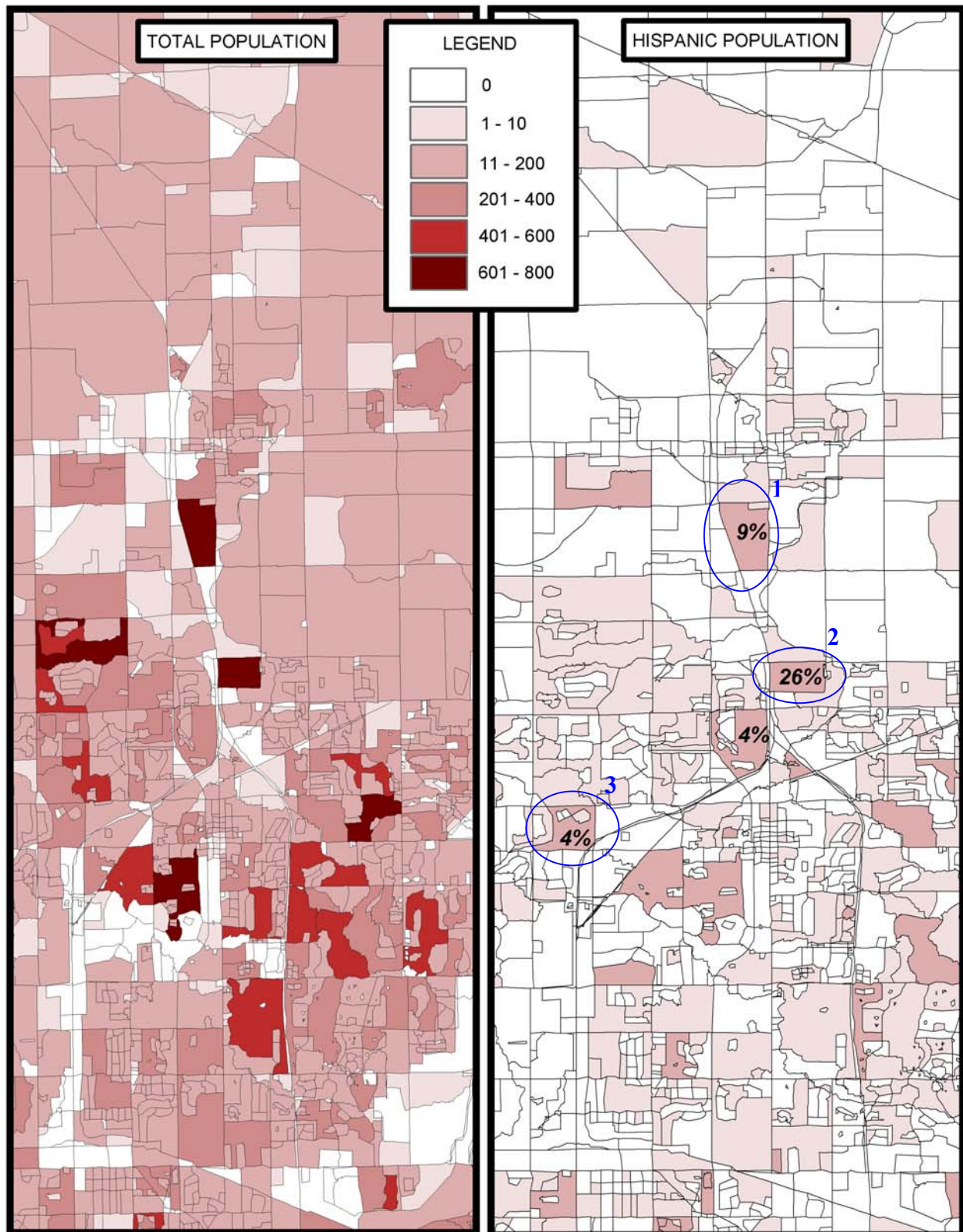
The second block is bound by US 31 to the west, 151<sup>st</sup> Street to the north, Silver Thorne Way to the east, and Greyhound Pass to the south. Village Park Plaza, a commercial development along US 31, comprises the western portion of the block. Tree Top of Carmel Apartments and Townhouses (eastern portion) comprises the only residential part of the block.

### **Block 3**

The third block includes the Park Place subdivision, Bethlehem Lutheran Church, and a proposed business park (northwest of US 31 and 131<sup>st</sup> Street). The only residential portion of this block is Park Place.

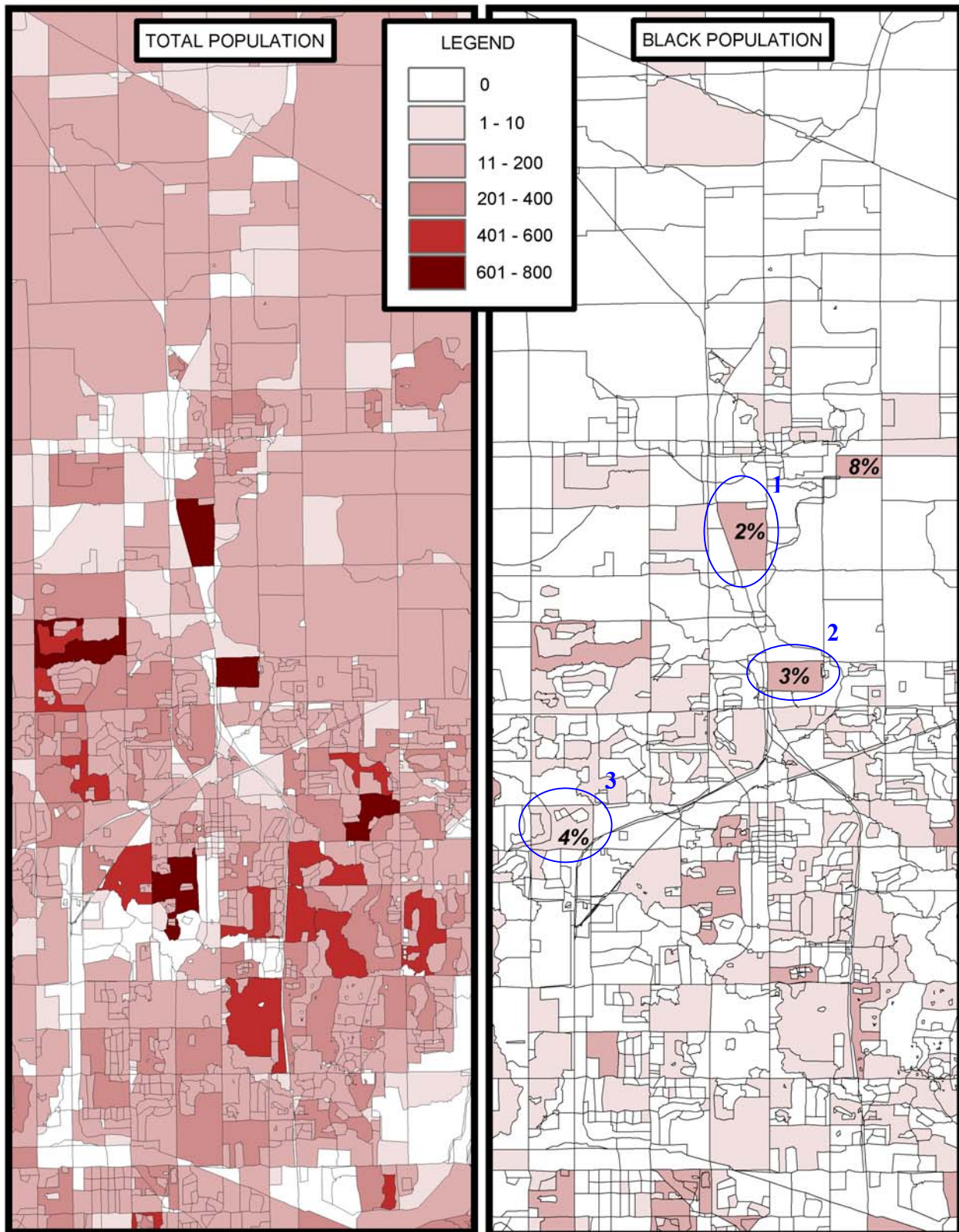
There are no neighborhoods or communities with a high percentage of the population below poverty (Figure 4.3-13). Percentage of the population within the study area that is below poverty ranges from 1% to 8%.

**Figure 4.3-7 Hispanic Population**



Percent of total population per block. Indicated only when above 1%.

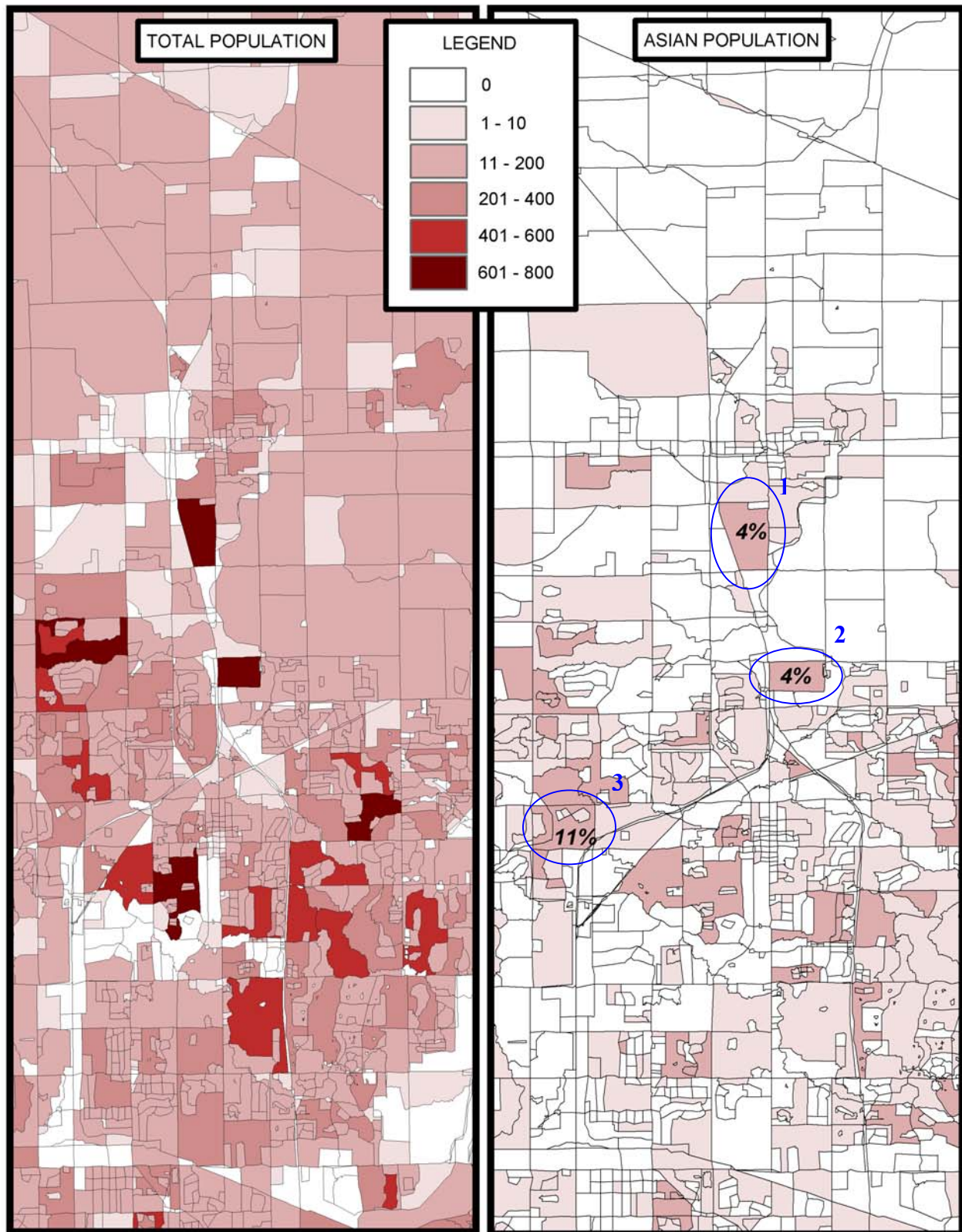
**Figure 4.3-8 Black Population**



Percent of total population per block. Indicated only when above 1%.



**Figure 4.3-9 Asian Population**



Percent of total population per block. Indicated only when above 1%.

**Figure 4.3-10** Native American Population

